Cheyenne

THE STATE OF WYOMING

JIM GERINGER
GOVERNOR

Department of Environmental Quality

250 Lincoln Street ● Lander, Wyoming 82520-2848 ● Fax (307) 332-7726

ABANDONED MINES (307) 332-5085 | AIR QUALITY (307) 332-6755 | LAND QUALITY (307) 332-3047 | SOLID & HAZARDOUS WASTE (307) 332-6924 | WATER QUALITY (307) 332-3144

November 2, 2001

Dolly Potter, Environmental Engineer
Solvay Minerals
P.O. Box 1167
Green River, WY 82935

RE: Solvay Minerals Green River Soda Ash Plant
Stack Test Review

Dear Ms. Potter:

The Division has received and reviewed the stack test reports submitted by Solvay Minerals under cover letter dated October 23, 2001. Airtech Environmental Services Inc. was contracted by Solvay to conduct particulate and NOx emission tests on the ESP controlled "A" & "B" Calciner (AQD #17). Sampling was conducted on October 13, 2001. Particulate emissions tests were performed to satisfy Operating Permit 30-126 condition F9 that requires particulate emissions tests once during the operating permit term (5 years). NOx emissions tests were performed to satisfy Operating Permit 30-126 condition F10 that requires NOx emissions tests annually. EPA Reference Methods 1-5/202 were utilized to determine front half, back half organic, and back half inorganic particulate emissions. The front half and the back half inorganic portions of the test were totaled to determine compliance with the source's particulate emission limit. EPA Reference Method 7E was utilized to determine NOx emissions.

This review of the test data indicates the "A" & "B" Calciner (AQD #17) to be operating in compliance with the particulate and NOx emission limits set by Operating Permit 30-126. Operating Permit 30-126 limits particulate emissions from the calciner to 22.30 lb/hr and limits NOx emissions to 30.00 lb/hr. Review of the test data shows the calciner tested at an average for three one hour test runs at 7.39 lb/hr particulate, 33.1% of it's allowable and 16.1 lb/hr NOx, 53.7% of it's allowable. The testing was performed at an average load of 298.2 TPH, 74.6% of capacity (400 TPH).

The Division will accept these tests as representative of particulate and NOx emissions at the

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
STACK TEST SUMMARY REPORT
SOLVAY MINERALS GREEN RIVER SODA ASH PLANT
(17) A AND B CALCINERS (EP1&2)

REVIEWER: Disel **REVIEW DATE:** 11/2/01 **OBSERVED:** ☐

TEST FIRM: Airtech Environmental Services Inc. **TEST TYPE:** Compliance Certification

TEST DATE	POLLUTANT TESTED
9/13/01	Particulate

STACK TEMP	PERCENT OF ALLOWABLE	PERCENT OF FULL LOAD
327	33.1	75.1

ACFM	LB/HR	RATE
349,800	7.39	0.00650

SCFM @ 0% O2:	SCFM	%O2:
78,300	188,100	12.2

	LB/HR	RATE	LB/MMBTU	SCFM	% LOAD
RUN1:	7.39	0.00633 gr/dscf		193500	78.3
RUN2:	7.69	0.00681 gr/dscf		186900	74
RUN3:	7.09	0.00634 gr/dscf		183900	73
AVG:	7.39	0.00650		188,100	75.1
ALLOW:	22.3				

RATED CAPACITY: 400 TPH and 500 MMBtu/hr

Testing performed to satisfy Operating Permit 30-126 condition F9 that requires particulate emissions tests once during the operating permit term (5 years). EPA Methods 1-5, and 202 were utilized to determine front and back half inorganic particulate emissions. The test results, averaged for three one hour test runs, show a mass emission rate of 7.39 lbs/hr for the front and back half inorganic particulate emissions. The test results, averaged for three one hour test runs, show a mass emission rate of 21.2 lbs/hr for the back half organic particulate emissions. Only the front and back half inorganic particulate emissions are added to determine compliance with the calciner's 22.30 lb/hr particulate emission limit. The filter weight changes were properly transcribed from the laboratory data sheets to the spreadsheet form.

11/2/01

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AIR QUALITY DIVISION
STACK TEST SUMMARY REPORT
SOLVAY MINERALS GREEN RIVER SODA ASH PLANT
(17) A AND B CALCINERS (EP1&2)

REVIEWER: Disel REVIEW DATE: 11/2/01 OBSERVED: ☐

TEST FIRM: Airtech Environmental Services Inc. TEST TYPE: Compliance Certification

TEST DATE	POLLUTANT TESTED
9/13/01	NOx

STACK TEMP	PERCENT OF ALLOWABLE	PERCENT OF FULL LOAD
327	53.7	74.1

ACFM	LB/HR	RATE
346,500	16.1	17.0 ppmdv

SCFM @ 0% O2:	SCFM	%O2:
77,925	187,200	12.2

	LB/HR	RATE	LB/MMBTU	SCFM	% LOAD
RUN1:	14.4	15.2 ppmdv		187800	74.3
RUN2:	17.3	18.3 ppmdv		186900	74.5
RUN3:	16.5	17.5 ppmdv		186900	73.5
AVG:	16.1	17.0 ppmdv		187,200	74.1
ALLOW:	30				

RATED CAPACITY: 400 TPH and 500 MMBtu/hr

Testing performed to satisfy Operating Permit 30-126 condition F10 that requires NOx emissions tests annually. The NOx concentrations at the test location were determined using Method 7E. A sample of the gas stream was continuously withdrawn from the test location and analyzed using a CEM system. Methods 1-4 were performed during the testing to determine volumetric flow.